



SCANNING UV VISIBLE SPECTROPHOTOMETER

SCANNING UV VISIBLE SPECTROPHOTOMETER BFU1N1 TO BFU1N5

SCANNING SPECTROPHOTOMETER



1. Unique optical system, 1200 lines/mm grating and imported receiver to ensure its sound performance.
2. The instrument has basic functions of photometric analysis and quantitative analysis. With PC software, it expands the applications, such as spectral scanning, kinetics, DNA/protein analysis, multi-wavelength test, etc.
3. Adopts 51 microcomputer systems, and can store 200 test data and 100 standard curves.
4. Socket type deuterium and tungsten lamps can make lamps switching without optics debugging and are easy to be replaced.
5. A large sample chamber can accommodate 5-100mm cuvettes of all kinds.
6. Extensive accessories are optional, such as 50/100mm manual 4-cell holder, au

SPECIFICATIONS

Model	BFU1N1	BFU1N2	BFU1N3
Optical System	Single Beam, Grating 1200 lines/mm		
Wavelength Range	190-1100nm	191-1100nm	192-1100nm
Spectral Bandwidth	2 nm	3 nm	4 nm
Wavelength Accuracy	±0.3 nm	±0.5 nm	1 nm
Wavelength Repeatability	≤0.1 nm	≤0.2 nm	
Photometric Accuracy	0.3%T	0.5%T	
Photometric Repeatability	0.2%T		
Photometric Range	0-200%T, -0.3~3A, 0-9999C	1-200%T, -0.3~3A, 0-9999C	2-200%T, -0.3~3A, 0-9999C
Stray light	0.05%T	0.1%T	0.15%T
Stability	±0.0001A/h @500nm	±0.0002A/h @500nm	
Baseline Flatness	±0.002 A		
Noise	±0.001 A		
Work Mode	T, A, C, E		
Wavelength Setting	Auto		
Display	128*64 LCD	129*64 LCD	130*64 LCD
Light Source	Imported Deuterium & Tungsten lamp		
Detector	Imported Silicon Photodiode		
Cuvette Holder	10mm manual 4-cell holder	11mm manual 4-cell holder	12mm manual 4-cell holder
Output	USB, RS232	USB, RS233	USB, RS234
Power	AC 110-220V 50-60Hz		
Shipping Size	700*580*340mm	701*580*340mm	702*580*340mm
Gross Weight	20kg	21kg	22kg
Standard Accessories	10mm glass cuvette x 4, 10mm quartz cuvette x 2 (UV), Power cord, User's Manual, PC software (UV)	11mm glass cuvette x 4, 10mm quartz cuvette x 2 (UV), Power cord, User's Manual, PC software (UV)	12mm glass cuvette x 4, 10mm quartz cuvette x 2 (UV), Power cord, User's Manual, PC software (UV)
Alt Name	Scanning Spectrophotometer		
Model	BFU1N4	BFU1N5	
Optical System	Single Beam, Grating 1200 lines/mm		

Wavelength Range	320-1100nm	340-1050nm
Spectral Bandwidth		4 nm
Wavelength Accuracy	±0.5 nm	1 nm
Wavelength Repeatability	<=0.1 nm	<=0.2 nm
Photometric Accuracy	0.3%T	0.5%T
Photometric Repeatability	0.2%T	
Photometric Range	0-200%T, -0.3~3A, 0-9999C	
Stray light	0.05%T	0.15%T
Stability	±0.0001A/h @500nm	±0.0002A/h @500nm
Baseline Flatness	±0.002 A	
Noise	±0.001 A	
Work Mode	T, A, C, E	
Wavelength Setting	T, A, C, E	
Display	130*64 LCD	
Light Source	Imported Tungsten lamp	
Detector	Imported Silicon Photodiode	
Cuvette Holder	10mm manual 4-cell holder	
Output	USB, RS232	
Power	AC 110-220V 50-60Hz	
Shipping Size	700*580*340mm	
Gross Weight	20kg	
Standard Accessories	10mm glass cuvette x 4, 10mm quartz cuvette x 2 (UV), Power cord, User's Manual, PC software (UV)	
Alt Name	Scanning Spectrophotometer	

FEATURES

1. Unique optical system, 1200 lines/mm grating and imported receiver to ensure its sound performance.
2. The instrument has basic functions of photometric analysis and quantitative analysis. With PC software, it expands the applications, such as spectral scanning, kinetics, DNA/protein analysis, multi-wavelength test, etc.
3. Adopts 51 microcomputer systems, and can store 200 test data and 100 standard curves.
4. Socket type deuterium and tungsten lamps can make lamps switching without optics debugging and are easy to be replaced.
5. A large sample chamber can accommodate 5-100mm cuvettes of all kinds.
6. Extensive accessories are optional, such as 50/100mm manual 4-cell holder, auto 8-cell holder, film holder, 21 CFR compliant software, etc.

SCANNING UV VISIBLE SPECTROPHOTOMETER BHV1D1 TO BHV1D9

SPECTROPHOTOMETER

It is an advanced single beam design consisting of 9 models. They differ in bandwidth and wavelength accuracy, but provide excellent performance for measurements.

They are suitable for clinical, pharmaceutical, and bio-chemical lab applications, as well as routine applications such as quantitative analysis, kinetics, Wavelength Scan, Multi-Wavelength, and DNA/Protein analysis. The memory is 32K.

UV-Vis Analyst software Based Microsoft Windows makes these instruments versatile. All instruments provide excellent performance for measurements.

They are divided into two types : PC models and stand-alone models.

In Stand-alone models, all software methods are included as built-in standard; this eliminates the need of software.

Online software update via the internet.

Data can be downloaded.

The PC models come standard with Windows based application software UV-Vis Analyst.



Fixed or variable slits (Bandwidths).

Sealed, solvent-resistant tactile keypad with alpha-numeric entry for file names and units.

Pre-aligned deuterium lamp for easy lamp replacement. The status of the lamps may be monitored.

Powerful built-in program or PC Windows based software UV-Vis Analyst including sophisticated utility programs.

Data Download-to-PC software for stand-alone models (Optional).

Real-time clock for date and time stamping of results.

Data can be saved by a USB memory device directly.

Brief Introduction:

All methods are included as built-in standard; this eliminates the need for soft

SPECIFICATIONS

Model	BHV1D1	BHV1D2	BHV1D3
Old Model		BSSCU-101	BSSCU-102
Wavelength Range	320-1100 nm	190-1100 nm	
Spectral Bandwidth	4 nm		2 nm
Optical System	Single Beam, Grating 1200 lines/mm		
Wavelength Accuracy	±0.5 nm		
Wavelength Repeatability	0.3 nm		
Scan Speed	Hi, MED., LOW., MAX. 3000 nm/min		
Photometric Accuracy	±0.5 %T or ±0.004A @1A		±0.3 %T or ±0.003 @1A
Photometric Range	0-200%T, -0.3-3A, 0-9999 Conc		
Stray Light	0.05%T @220 nm, 340 nm		
Stability	0.0008 A/h @500 nm		
Display	5 inches LCD (320x240 dots)		
Baseline Flatness	±0.002 A		
Standard Cell Holder	Standard 10 mm pathlength cuvette		
Light Source	Tungsten lamp		
USB Type A Port	USB Type A for USB memory device (Right side)		
USB Type B Port	USB Type B for optional computer connectivity (Back)		
Output Parallel Port	Parallel port for printer		
Power Requirement	AC 110/220 V, 50/60 Hz		
Dimensions (LxWxH)	491x365x180 mm		
Weight	14 kg		
Alt Name	Scanning Spectrophotometer		

Model	BHV1D4	BHV1D5	BHV1D6
Old Model		BSSNU-101	BSSNU-102
Wavelength Range	320-1100 nm	190-1100 nm	
Spectral Bandwidth	4 nm		2 nm
Optical System	Single Beam, Grating 1200 lines/mm		
Wavelength Accuracy	±0.5 nm		
Wavelength Repeatability	0.3 nm		
Scan Speed	Hi, MED., LOW., MAX. 3000 nm/min		
Photometric Accuracy	±0.5 %T or ±0.004A @1A		±0.3 %T or ±0.003 @1A
Photometric Range	0-200%T, -0.3-3A, 0-9999 Conc		
Stray Light	0.05%T @220 nm, 340 nm		
Stability	0.0008 A/h @500 nm		
Display	5 inches LCD (320x240 dots)		
Baseline Flatness	±0.002 A		
Standard Cell Holder	Standard 10 mm pathlength cuvette		
Light Source	Tungsten lamp		
USB Type A Port	USB Type A for USB memory device (Right side)		
USB Type B Port	USB Type B for optional computer connectivity (Back)		
Output Parallel Port	Parallel port for printer		
Power Requirement	AC 110/220 V, 50/60 Hz		
Dimensions (LxWxH)	491x365x180 mm		
Weight	14 kg		
Alt Name	Scanning Spectrophotometer		

Model	BHV1D7	BHV1D8	BHV1D9
Old Model	BSSNU-103		BSSNU-104
Wavelength Range	190-1100 nm		
Spectral Bandwidth	1.8 nm	0.5/1/2/4/5 nm	1 nm
Optical System	Single Beam, Grating 1200 lines/mm		
Wavelength Accuracy	±0.3 nm		
Wavelength Repeatability	0.2 nm		
Scan Speed	Hi, MED., LOW., MAX. 3000 nm/min		
Photometric Accuracy	±0.3 %T or ±0.003 @1A		
Photometric Range	0-200%T, -0.3-3A, 0-9999 Conc		
Stray Light	0.05%T @220 nm, 340 nm		
Stability	0.0008 A/h @500 nm		
Display	5 inches LCD (320x240 dots)		
Baseline Flatness	±0.0015 A		
Standard Cell Holder	Standard 10 mm pathlength cuvette		
Light Source	Tungsten & Deuterium lamp (Pre-aligned)		
USB Type A Port	USB Type A for USB memory device (Right side)		
USB Type B Port	USB Type B for optional computer connectivity (Back)		
Output Parallel Port	Parallel port for printer		
Power Requirement	AC 110/220 V, 50/60 Hz		
Dimensions (LxWxH)	579x428x198 mm		
Weight	20 kg		
Alt Name	Scanning Spectrophotometer		

ACCESSORIES FOR PURCHASE

No	name
1	Micro Cell Holder (Beam height: 15mm)
2	8-Position Auto Cell Changer
3	4-Cell Holder for 10mm SQU.cuvette
4	4-Cell Holder for 50mm SQU.cuvette
5	4-Cell Holder for 100mm SQU.cuvette
6	Square Cuvettes Glass :10 mm
7	20 mm
8	30 mm
9	50 mm
10	100 mm
11	Square cuvettes Quartz:10 mm
12	20 mm
13	30 mm
14	50 mm
15	100 mm
16	Micro cell, Quartz (Beam height: 15mm) 100UL
17	200UL
18	500UL
19	Sipper System
20	Constant-Temperature System
21	Constant-Temperature Sipper System
22	Test Tube Holder
23	Cylindrical Cell Holder
24	Solid Sample Holder (Single Cell)
25	Water-Jacketed Cell Holder
26	10mm Water-Jacketed 4-Cell Holder
27	Milas Deuterium Lamp
28	Halogen Lamp(Philips)
29	Halogen Lamp(Philips)
30	Halogen Lamp(Osram)
31	Self Masking Cont. Flowthrough G.Cell (Beam height: 15mm) 5mm
32	10mm
33	20mm
34	30mm
35	Self Masking Cont. Flowthrough Q. Cell (Beam height: 15mm) 5mm
36	10mm
37	20mm
38	30mm



FEATURES

- Fixed or variable slits (Bandwidths).
- Sealed, solvent-resistant tactile keypad with alpha-numeric entry for file names and units.
- Pre-aligned deuterium lamp for easy lamp replacement. The status of the lamps may be monitored.
- Powerful built-in program or PC Windows based software UV-Vis Analyst including sophisticated utility programs.
- Data Download-to-PC software for stand-alone models (Optional).
- Real-time clock for date and time stamping of results.
- Data can be saved by a USB memory device directly.

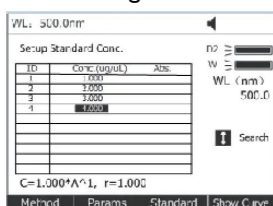
Brief Introduction:

All methods are included as built-in standard; this eliminates the need for software. Online software update via the internet. The local control software includes functions such as: Photometry, Quantitative, Wavelength Scan, Kinetics, DNA/Protein, Multi-wavelength and System Utilities.



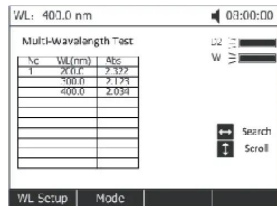
Standard Curve:

Up to 10 standard solutions may be used to establish a calibration equation curve. There is a choice of four methods for fitting a curve through the calibration points: Linear fit, Linear fit through zero, square fit and cubic fit.



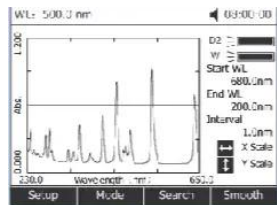
Multi-Wavelength:

Up to 10 wavelengths may be entered, allowing the measurement of multiple wavelengths on a series of samples.



Wavelength Scan:

The Wavelength Scan intervals are 0.1, 0.2, 0.5, 1, 2, 5 nm, and High, Medium and Low scan speeds are available. Scan speeds vary from 100 to 2000 nm/min. Wavelengths are scanned from high to low so that the instrument stands by at high wavelength. This minimizes the degradation of UV-sensitive samples. Precise control of filter and lamp changes means that their effects are not seen on the final scan. Post-run manipulation includes re-scaling axes, curve tracking and peak picking.

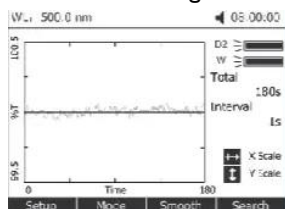


Kinetics:

This mode may be used for scanning time courses or reacting rate calculations. Abs. vs. time graphs displayed on the screen in real time.

Wait time and measurement time up to 12 hours may be entered with time intervals of 0.5, 1, 2, 5, 10, 30 seconds and 1 min.

Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for the rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor.



DNA/Protein Test:

Concentration and DNA purity are calculated by Absorbance ratios 260 nm/280 nm or 260 nm/230 nm with optional subtracted absorbance at 320 nm.

DNA Concentration = $62.9A_{260} - 36.0A_{280}$ or $49.1A_{260} - 3.48A_{230}$

Protein Concentration = $1552A_{260} - 757.3A_{280}$ or $183A_{220} - 75.8A_{230}$

Other wavelengths and factors may be entered.

Coef	Method	Unit	Default
62.9	A ₂₆₀	mg/L	
-36.0	A ₂₈₀	mg/L	
49.1	A ₂₆₀	mg/L	
-3.48	A ₂₃₀	mg/L	
1552	A ₂₆₀	mg/L	
-757.3	A ₂₈₀	mg/L	
183	A ₂₂₀	mg/L	
-75.8	A ₂₃₀	mg/L	

UV Analyst PC-Control Software:

The PC application software offers:

Photometric Mode

Quantitative test (Standard curve)

Wavelength Scan

Kinetics

DNA/Protein
Multi-Wavelength
System Utility

The PC application software UV-Vis Analyst takes the best features of the stand-alone version plus more powerful data processing, expanded data collecting, and storage capability. It comes standard with UV3/6 series PC models and is optional to stand-alone models.

Quantitative Test (Standard curve):

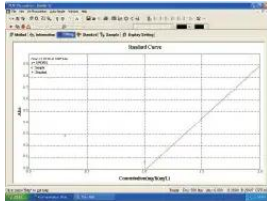
Use up to 20 standards to establish a standard curve. Four methods for fitting a curve:

Linear fit.

Linear through zero.

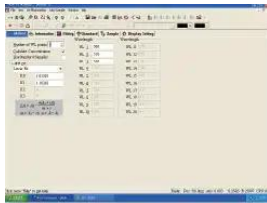
Square fit.

Cubic fit.



Multi-wavelength:

Up to 20 wavelengths can be selected and multiple samples can be measured. (Auto cell changer is required to run multiple samples automatically)



Wavelength Scan:

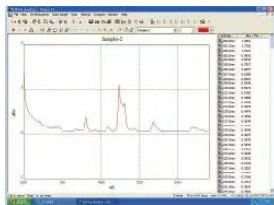
Automatically record peaks and valleys. The quantity of channels is unlimited; you can simultaneously store as many as desired.

Post-run manipulation and processing includes:

Re-scaling axes, curve.

1 to 4 derivatives.

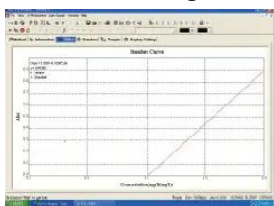
Smoothing, combination, zooming, overlap.



Kinetics (Abs. VS Time):

The Kinetics mode may be used for scanning time courses or reacting rate calculations. Abs. VS Time graphs are displayed on the screen in real time. Wait time, measurement time and time intervals may be entered.

Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for the rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor.





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